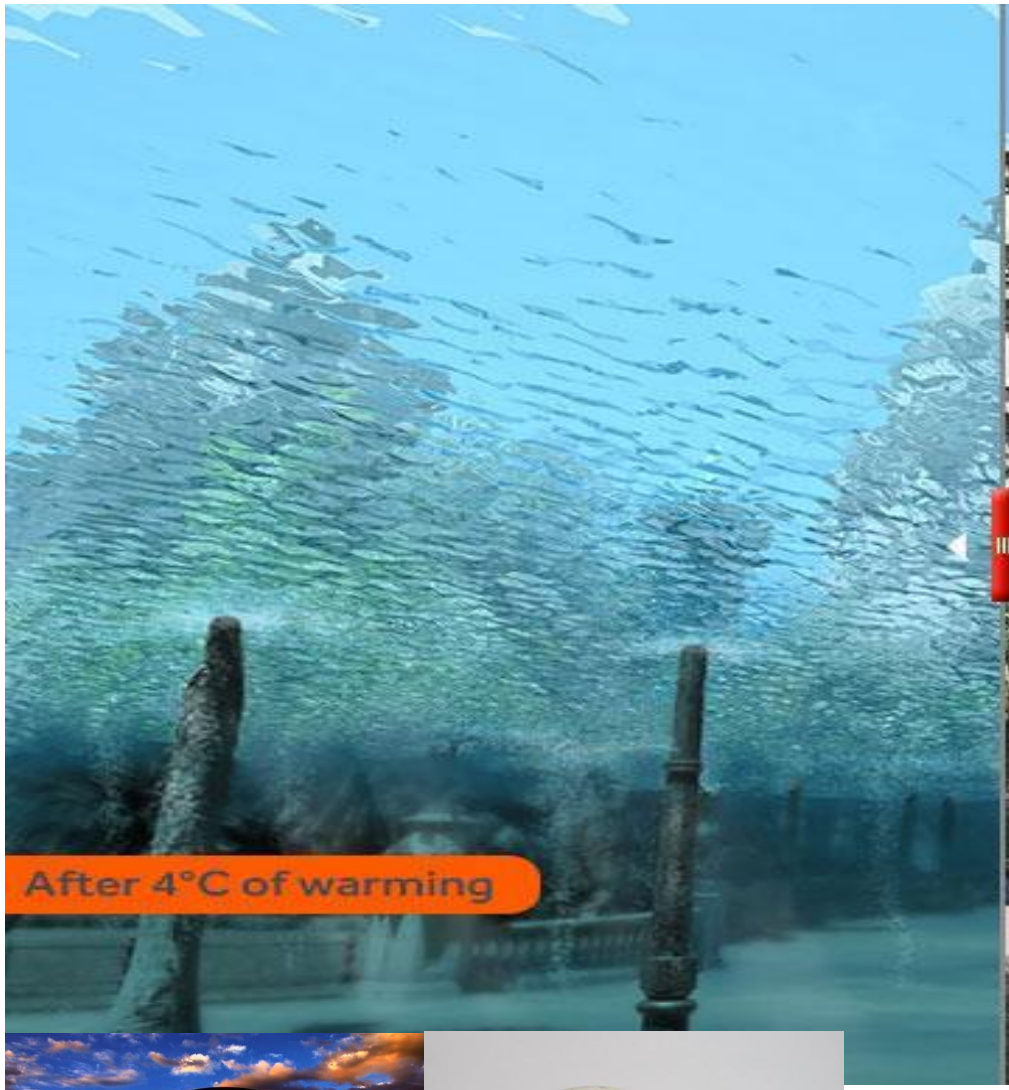
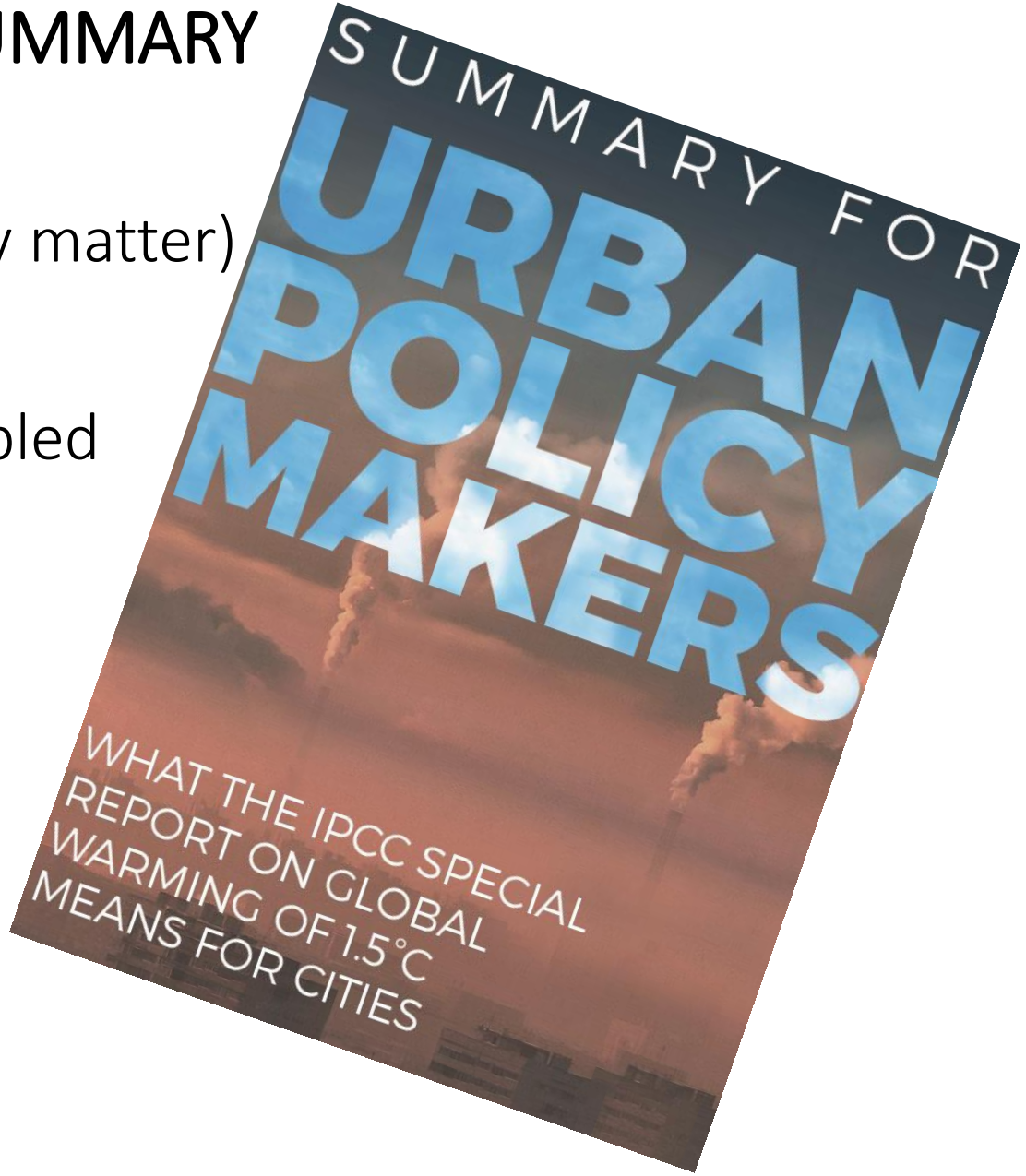


IPCC 1.5 REPORT– SUMMARY

Noloyiso Walingo

CONTENTS OF IPCC 1.5 REPORT SUMMARY

- Introduction
- The importance of cities (why do they matter)
- Is the urban transition feasible?
- How can the urban transition be enabled
- Can this be paid for?



IPCC 1.5 – GENERAL SENTIMENTS

- This is a summary report that translates the key scientific findings and policy observations of the IPCC Special Report on Global Warming of 1.5°C for officials and policymakers of the world's cities and urban areas.
- In its current form, it is to be treated carefully as it carries a disclaimer, apparently not released officially, thus the IPCC and member states distance themselves from its current contents.

It is about reduction of global temperatures to 1.5^0C or even 0^0C by reducing CO_2 emissions

Presents scenarios for the below, exact and above 1.5^0C trajectories (impacts)

This assists in providing direction for city planning and decision-making

- Action needed is now clear – largely based on the fact that 'how we get to the 1.5^0C threshold will be determined by how we reduce our emissions today'.

Tough task:

- "If global CO_2 emissions reach zero in 30 years, there is a 50% chance of limiting warming to 1.5°C"
- To increase our chances to more than 50% as per above, try 20 (instead of 30) years
- Less expensive to act now, as postponing action/s each year reduces our chances to reduce by 2 years
- Countries / communities have worked on the targets, but others need to up their efforts.

Change needed in 4 areas

- Energy, 🤪
- Land (land use and management) and ecosystems,
- Urban areas and infrastructure,
- Industrial systems

Present scenario

+1°C / 2017

The world has already warmed by 1.0°C above pre-industrial levels due to human activities and is experiencing related impacts.

Future scenario

+1.5°C / 2030 - 2052

At the current rate of warming of 0.2°C per decade, global warming will reach 1.5°C between 2030 and 2052.

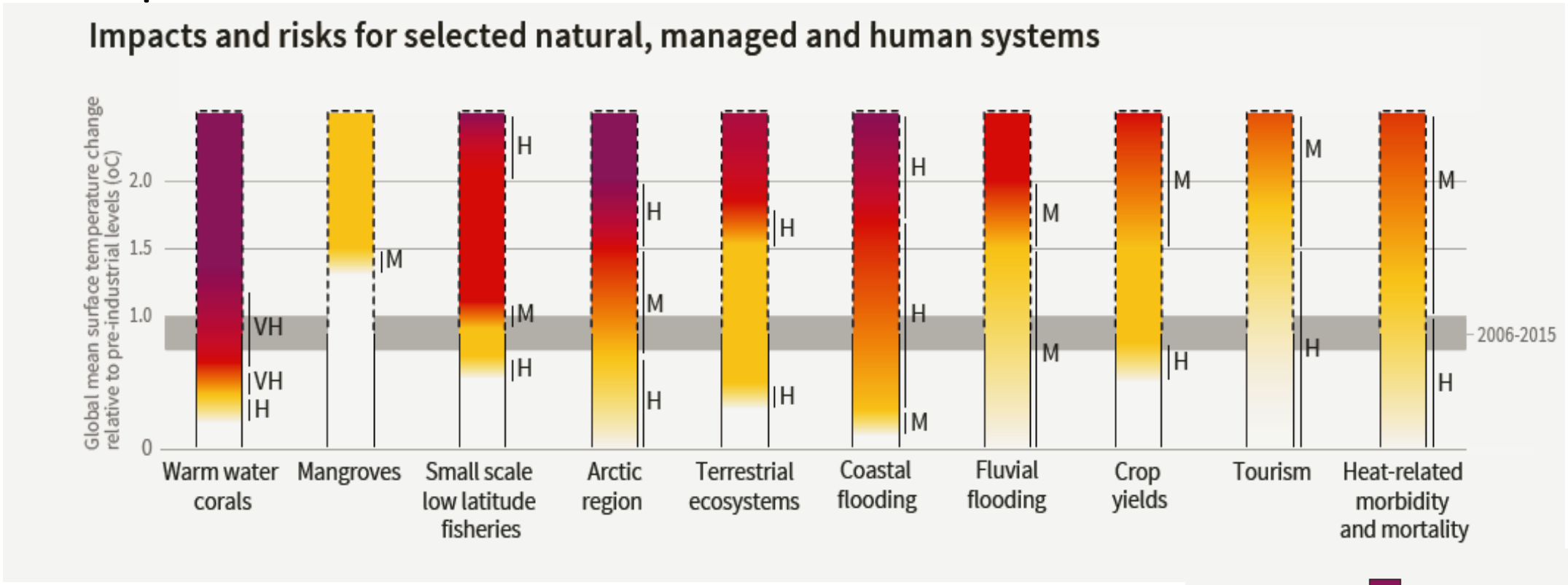
Future emission pathways

- These are scientific projections of our possible futures based on the direction of the world economy, demographic trends, and global energy and land use.
- 2 categories:
  - '**No overshoot'** - keeping global ^{0}C at or just below 1.5°C throughout the rest of the century
  - **'Overshoot** - ^{0}C temporarily exceed 1.5°C before returning to 1.5°C by 2100 pathways' in which temperatures temporarily exceed 1.5°C before returning to 1.5°C by 2100.
- (NB: If temporary exceedance is up to 0.1°C, it is a 'limited overshoot' but if it is more than 0.1°C, it is a 'higher overshoot')

Varying impacts

- **Human death & illnesses** (<1.5^{0}C - overshoot) due to exacerbated urban heat islands, amplification of heat waves, extreme weather volatility, floods, droughts, coastal inundation, and an increase in vector-borne diseases like malaria and dengue fever.
- If kept at 1.5°C versus 2.0°C (no overshoot) – at least as much as 457 million people will **be less exposed to climate risk and poverty**
- At 2.0°C versus 1.5°C, **water stress** felt differently per region, projected to double
- **Degradation of natural systems**. Loss of ecosystems resulting to loos of habitats and species. This then results to huge impacts on food security, forests and ecosystems.
- Some impacts still unknown at 2^{0}C scenarios, which are critical for local decision-making and local actions
- These include effects at the local level, as well as linkages between climate risks, poverty, equity, and well-being

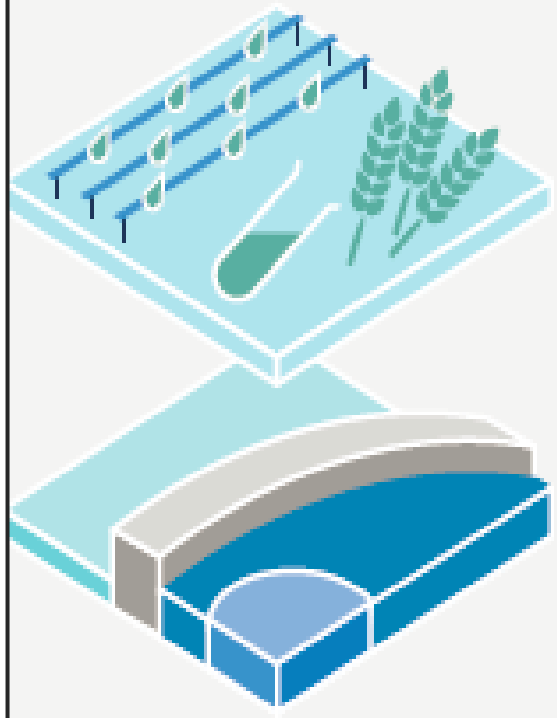
Impacts summarised



Not all is lost, there are opportunities –ADAPTATION (NORMAL AND TRANSFORMATIONAL

ADAPTATION

Responding to and preparing for the impacts of climate change



Improved infrastructure, i.e. efficient irrigation systems to deal with drought

Flood protection and safeguarding of fresh water supply

Sub-national
Local

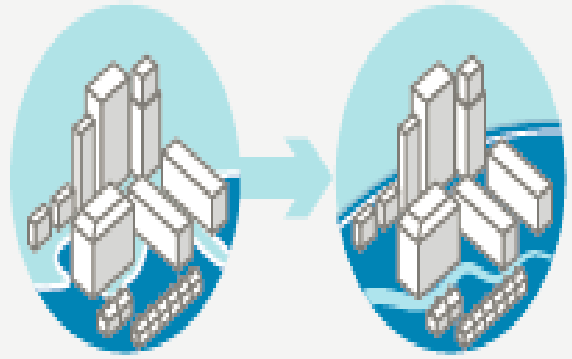
Deep, systemic change that requires reconfiguration of social and ecological systems

TRANSFORMATIONAL ADAPTATION

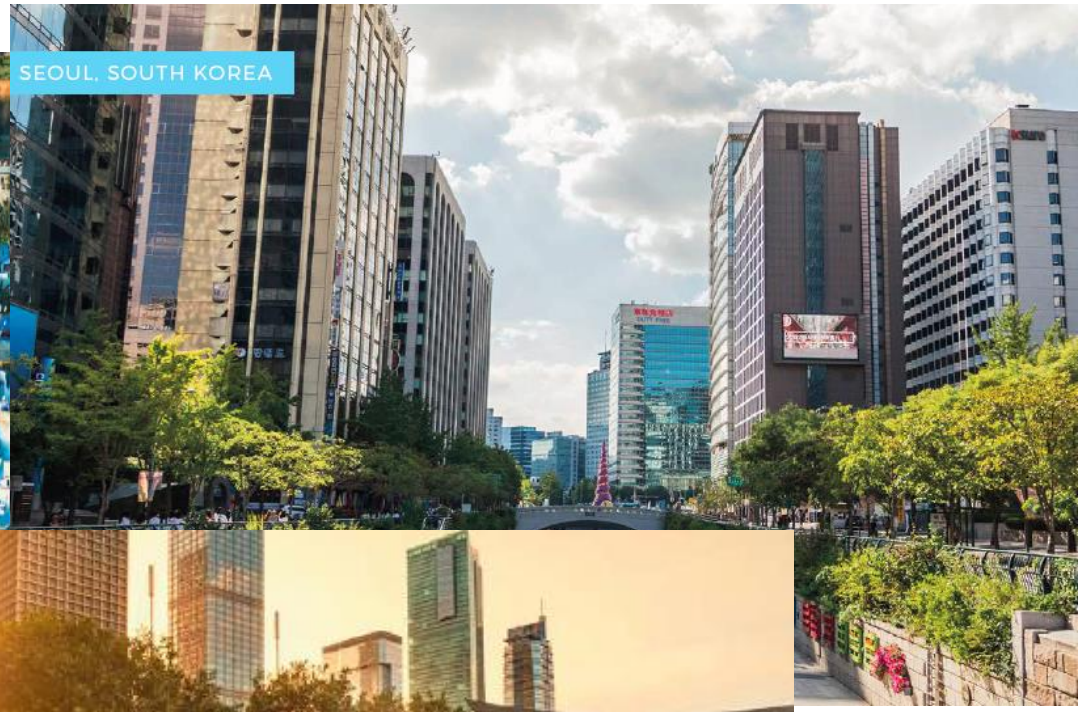
Alternative lifestyles and employment

hanges to farming, e.g., diversifying crops, strengthening links to market

New city planning to safeguard people and infrastructure



Cities – are they important?



YES

- Refer to earlier discussions about transformation in 4 critical areas, viz. energy, land and ecosystems, urban and infrastructure, and industry
- If we desire to curb global ^{0}Cs to 1.5^{0}C or less, then transformative action is required in these systems
- Urban system and urbanization is an important consideration in all of them
- Urban areas host more than 50% of the world's population, with built assets and economic activity.
- 2050 prediction of world's population in cities – increase by 2.5 to 3 billion
- This growth requires extensive (re-)construction of urban infrastructure and buildings, re-thinking of future developments and their plans
- Once urban areas grow at that anticipated rate, a trigger on emissions across multiple sectors is pulled
- In terms of **living space**, need to lower emissions from **buildings** by 80-90% in order to achieve 1.5^{0}C global target **(SPLUMA Norms & Standards are critical)**
- Transport planning – reduction of emissions to 30% in 2050 will be consistent with limiting 1.5^{0}C overshoot

As town and regional planners, need to assist in driving:

- **Urban adaptation:** To be accelerated by greater emphasis on ecosystem-based adaptation, green infrastructure, and the use of natural systems to sequester carbon in urban areas.
- **Green infrastructure** in particular with its adaptation and mitigation co-benefits.
- The **context-appropriate development of green spaces**, protecting ecosystem services and developing nature based solutions, which have a potential to increase the set of available urban adaptation options
- **Technological innovations, mix and lifestyle changes** – can be deployed to limit global warming- smart-grids, shared micro-grid technologies, coupled with public environmental awareness
- **New technologies** that will enable **reduction of consumption** and **resource-use patterns**
- **Creating an enabling environment for new technologies** by way of policy innovations that encourage R&D, incentives for market uptake, and cooperation between governments and enterprises (DO WE HAVE LED HERE?)

IS THE URBAN TRANSITION FEASIBLE?

- It is a race against time
- Implementation has been slow since 1992 launch of the UNFCCC , regardless of the efforts of governments, NGOs, technological innovations, etc.
- No simple yes and/or no answer, given important variables that are at play: - geophysical, environmental, ecological, technological, economic, social, cultural, and institutional factors
- Multi-dimensional feasibility assessment is required, e.g.
  - URBAN MITIGATION OPTIONS: more sustainable land-use and urban planning, solar photovoltaics and wind associated with battery storage; bioenergy; energy efficiency; efficient appliances; electric vehicles, better public transport, and local shared mobility; non-motorized transport; low-energy buildings; reduced food wastage; ecosystem restoration (PICK THE EASIEST TO START WITH AND GROW FROM THERE)

IS THE URBAN TRANSITION FEASIBLE?....cont'd

URBAN ADAPTATION OPTIONS

- conservation
- agriculture, efficient irrigation, green infrastructure and
- ecosystem services, community-based adaptation, and
- appropriate building codes and standards

Combining adaptation and mitigation options can also be cost effective

If feasibility assessments are localised, they can assist national and local governments in developing a pragmatic action plans to join up adaptation and mitigation actions.

NB: Close the knowledge gaps

How can the urban transition be enabled?

Policies and Engagement

Achieving 1.5°C threshold will require effective governance frameworks, namely, accountable multi-level governance with participation from cities and urban areas, regions, industry, civil society,

and scientific institutions

Improved climate education and increased public awareness, as well as arrangements to enable accelerated behaviour change to support governance frameworks.

- GHG emission reductions can be enabled by the rapid progress of general purpose technologies to include ICT, artificial intelligence, the Internet-of-Things, nanotechnologies, biotechnologies, and robotics
- Private sector partnerships
- Consumer incentives
- Implementing 1.5°C-relevant strategies requires well functioning legal frameworks together must have clearly defined mandates, rights, and responsibilities
- Political buy-in at local and national levels

CAN THIS BE PAID FOR?

- Required investments are well the beyond fiscal capacity of countries most at risk, let alone cities.
- Need multiple approach to financing
- In principle commitments of climate finance in support of the Paris Agreement amount to approximately USD 100 billion per year by 2020.
- In the energy system alone, an estimated annual average investment of around USD 2.4 trillion between 2016 and 2035 is needed to keep warming below 1.5°C.
- Government policies can encourage the mobilization of private funds by lowering the risk of low-emission and adaptation investments
- New forms of public-private partnerships can help ameliorate financial risk, including at the sub-national level.

IPCC 1.5 Concludes by saying:

"AN OPPORTUNITY THAT MUST BE SEIZED OVER THE NEXT TWO DECADES"

I conclude by saying:

"AN OPPORTUNITY TO IDENTIFY SYNEGIES BEFORE IT IS TOO LATE, WEIGH THE COSTS OF DOING NOTHING"

THANK YOU

ENKOSI KAKHULU BETHUNANA